Keep patients safer with Maquet PowerLED II

Antibacterial solution to prevent cross-contamination in the OR

Hundreds of millions of patients are affected worldwide by healthcare associated infections and it costs the healthcare system billions of dollars each year. Steps must be taken to minimize the risk of cross-contamination in all areas of the hospital, particularly in the operating rooms where patients are most vulnerable.[1]

Between cleanings, bacteria form in a biofilm layer on OR surfaces. Biofilms are a complex aggregate of microorganisms that adhere to surfaces and to each other, protecting the bacteria. When biofilms form, the bacteria within become extremely resistant to antibiotics and conventional antimicrobial agents, making them a serious health risk. That's why prevention of biofilm formation is crucial.[2]

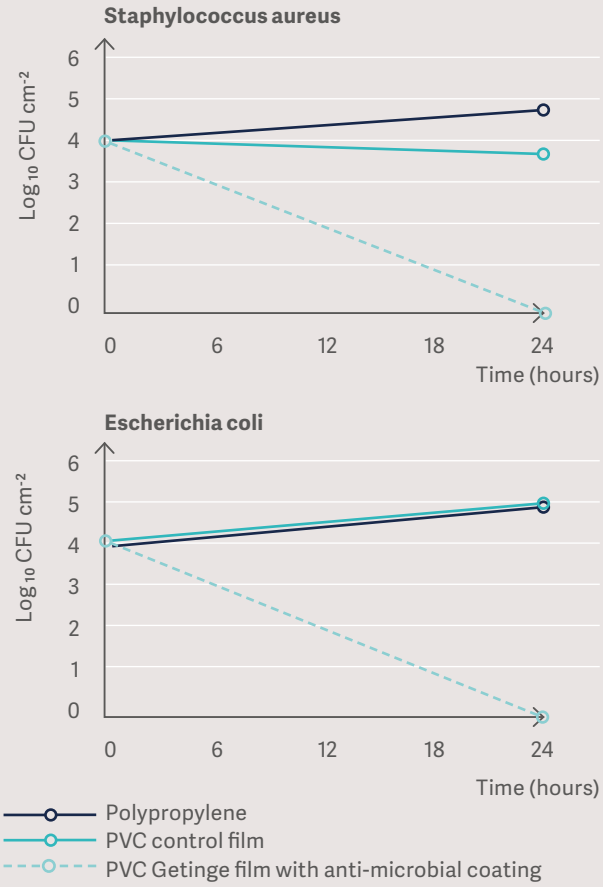
An antibacterial coating can block bacterial metabolism and interrupt their proliferation. In laboratory testing using ISO 22196:2011 standards, plastics treated with antibacterial additives showed a reduction in the presence of Staphylococcus aureus and Escherichia coli bacteria during a 24-hour contact interval. These results show that the inclusion of antibacterial additives on OR surfaces can help to prevent the spread of nosocomial infection.[3]

Maquet PowerLED II Surgical Lights feature antibacterial additives on high touch surfaces (external handles, wall touch screens, graphic interfaces). Integration of an antibacterial coating can reduce the risk of cross-contamination and hospital acquired infection, helping to keep your patients safe.

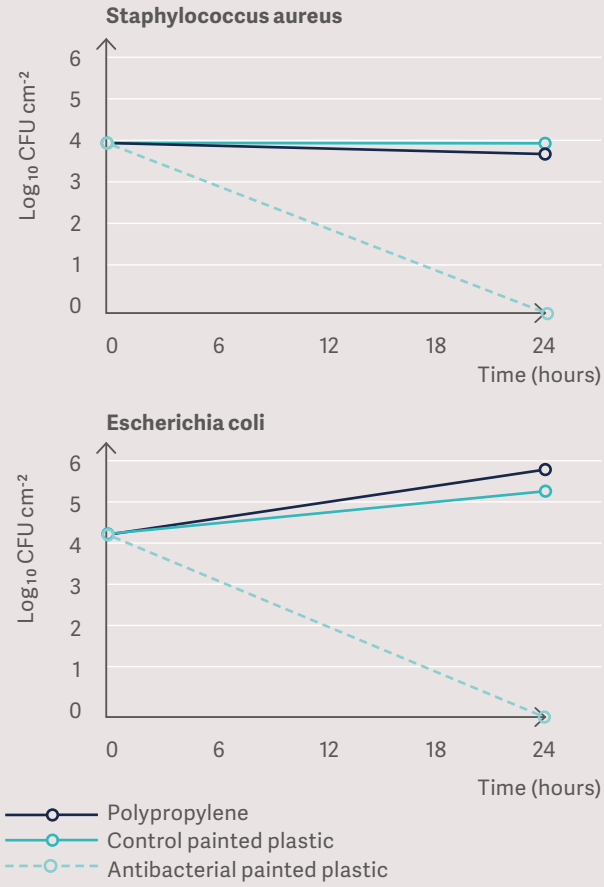
Protecting 24/7 including between cleanings, the antimicrobial additives inhibit the development of 99.99% of the germs tested (test in conformity with ISO 22196:2011 standard).

GETINGE

Tests done on plastic surfaces
(touch screen and graphic interfaces)



Tests done on paintings
(external handle)



Results on PVC Getinge film

- Staphylococcus aureus populations declined to below the limit of detection after 24 hours on PVC Getinge film whereas they increase in size of 0.5 orders of magnitude with polypropylene and remain constant on PVC control film.
- Escherichia coli populations declined to below the limit of detection after 24 hours on PVC Getinge film whereas they increase in size of 1.3 with orders of magnitude with polypropylene and PVC control film.

Results on antibacterial printed plastic

- Staphylococcus aureus populations declined to below the limit of detection after 24 hours on antibacterial painted plastic whereas they remain constant on control painted plastic and polypropylene.
- Escherichia coli populations declined to below the limit of detection after 24 hours on antibacterial painted plastic whereas they significantly increase on control painted plastic and polypropylene.

1. Stone PW, Hedblom EC, Murphy DM, Miller SB. The economic impact of infection control: making the business case for increased infection control resources. *Am J Infect Control.* 2005 Nov;33(9):542-7.
2. Bjarnsholt, T. The role of bacterial biofilms in chronic infections. *APMIS Suppl.* 2013 May;(136):1-51.
3. Determination of the Antibacterial Activity of Plastic Materials against Staphylococcus aureus and Escherichia coli using ISO 22196:2011. Industrial Microbial Services, Ltd., UK. Report date 13 September 2017 & 10 January 2018.

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